



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

INFORMAL DISCUSSION OF PAPERS.

THE MICROSCOPICAL EXAMINATION OF SEMINAL STAINS, BY F. M. HAMLIN. (PAGE 21).

DR. GEO. E. FELL.—I have listened with pleasure to the paper by Dr. Hamlin on this important medico-legal subject. His remarks are valuable, as he gives clear and concise methods of procedure, which are not to be found in similar form in the English text books on the subject. I have had some experience in the examination of similar stains in such cases and the method of procedure was that ordinarily followed. One of the most important cases I have been connected with was that of an individual who was accused of an outrage on a little girl between six and seven years of age. The case created considerable interest in Buffalo, as the defendant was President of one of the religious colleges in that city and had been uniformly respected previous to the disclosures in the case. I was called hurriedly one evening to the residence of Dr. W. C. Barrett and requested by him to examine, with my microscopic outfit, the under garment of the little girl, which had been left with him. The method adopted was the removal of a portion of the garment, soaking it in a small amount of water in a test tube, giving the spermatozoa time to deposit, removed with a pipette, and examining from time to time under powers ranging from three to twelve hundred diameters. After two or three hours work I discovered several spermatozoa, which enabled me to give clear testimony in the case; some of them being very complete in form although the garment had been over two months, I believe, in the hands of the legal officers. The importance of the expert testimony in this case was evidenced by the jury

requesting (after retiring) the re-reading of the evidence of Dr. Barrett and myself, and I was subsequently informed by the foreman of the jury that without my evidence and that of the defendant himself, the jury would probably not have brought in the verdict which committed him to Auburn prison for a term of five years.

DR. J. O. STILLSON.—My experience in the examination of spermatozoa coincides with that of Dr. Hamlin, except that I have not gone so far in criminal cases with it, as he has.

I have usually been unable to see them if I suffered suspected fabrics to remain soaked in water except for a very short time. By scraping the substance off dry and placing it on a slide, to which is added a little water, or water and glycerine, 1 part to 4, I have succeeded in finding spermatozoa quite readily in several cases. I wish to say, however, that all my attempts to stain them have thus far been failures. Whether it was some fault in the manipulation, or whether it was due to the staining materials themselves, I am unable to say, but I would like to learn if any one has succeeded in staining spermatozoa. The specimens which I have preserved were not put up in water; so far they have been mounted dry or in glycerine and water. There is another point which I wish to bring out, and I hope some of the more experienced will enlighten me on the subject. The reason why I ask, is on account of a case which comes to my mind at this moment, a case where a friend, a colleague of mine, Dr. Kress, asked the same of me. I wish to know at what age, or what is the earliest age, at which in the human subject spermatozoa appear in the seminal discharge? This, I think, is very important to determine, because if it is possible to do so it will be of great value to some of us in the future. I suppose the word puberty will here be appropriate as a term designating a certain period between youth and manhood, but as that is very indefinite as to years, being so different in different people, I would like some one to name more specifically, if it is possible to do so, the limit at which we can be safe in saying that spermatozoa may be found to *first* appear.

DR. H. GRADLE mentioned that he had found it easy to stain spermatozoa, especially when in the urine, by treating them with

aniline colors like micro-organism. A drop of the fluid containing them is placed upon a cover glass, allowed to evaporate and the film is hardened by drawing it a few times through a flame. Staining with an aqueous solution of magenta brings out the spermatozoa very prominently.

DR. J. O. STILLSON.—Although not bearing strictly upon the point under discussion, I would like to state that I have frequently examined spots mixed with or wholly composed of dried blood. These were generally cases where an expert opinion was desired, in order to prove or disprove guilt. One case was of particular interest to me, inasmuch as it was one of those murder trials which require great care and responsibility on the part of the expert. The analysis was made immediately after my return from the Elmira meeting of this Society. The articles spotted were, a suit of clothes, a hatchet, and specimens from the walls of the house where the murdered family were found, in all specimens hæmatine was found, as well as the peculiar reaction of blood when treated with Guaiacum and Peroxide of Hydrogen. Blood in small clots was found in the seams of the pants, which yielded hæmatine and corpuscles, which after restoration resembled, in fact, seemed identical with those on the hatchet and walls. As a restoring medium I used glycerine and water, 1 part to 4. This allows the corpuscles to expand slowly, and at the same time it acts as a preserving medium. Slides in this way can be immediately finished by some hard mount, whenever the corpuscles attain their maximum of swelling. They will then keep indefinitely. The mode of identification practiced by me in this case was that of comparison. The three kinds of corpuscles were measured under the same circumstances and course of treatment, and were found to average $\frac{1}{3200}$ of an inch in diameter. In some cases I tried to stain the restored corpuscles, but I find that it changes their behaviour very greatly. Some of them swell enormously, while others either shrink or become suddenly arrested in the process of restoration, and then their diameters vary all the way from $\frac{1}{700}$ to $\frac{1}{8800}$ of an inch. In comparing these specimens of corpuscles with each other, they were also compared with my own blood dried on fabrics and treated in precisely the same manner.

The blood of any animal may thus be dried, treated in precisely the same manner, compared, and within very close limits be identified. The corpuscles of the dog, rabbit and ape, I believe, are the nearest to those of the human species. In this case I could not distinguish dog's blood from human.

DR. GEO. E. BLACKHAM.—I would say that I have had very good success in the detection of spermatozoa in seminal stains by the old process, but am grateful to Dr. Hamlin for elaborating this improved method.

In regard to staining, I would say that my experience has been, that in seminal fluid, dried directly on the slide or cover or in a deposit from a fresh urine similarly dried, the spermatozoa stained readily with the aniline colors, but in the case of old seminal stains which had become thoroughly dry on fabrics and required to be soaked out for examination, the spermatozoa did not take the stain readily and indeed it was often impossible to stain them satisfactorily.

DR. GILMAN gave his experience in a case where the examination was materially assisted by coloring the spermatozoa by the use of wine.

DR. HAMLIN.—It is as essential sometimes to the cause of justice that some stains should be proved *not* seminal, as to prove that they are in others, I refer, of course, to cases of alleged rape. Negative proof in such cases can never be so strong as positive, unless we have perfect confidence in the methods of investigation employed. The fact that piece after piece can be examined by the processes I have recommended, will, it seems to me, settle the matter as effectually as it can be. There are, however, some instances when it can only be used as cumulative proof as in a case which came under my observation. A young woman claimed that when passing a somewhat unfrequented street about 9:30 p. m., she was attacked by three men and dragged into a secluded place near the street; that she became unconscious, and when she came to herself she discovered she was lying upon the ground, her clothing disordered, and her person violated. A physician, who examined her about three hours later, states that he found her so excited as to be unable to

give any account of the affair, but that her person presented evidence of violence, on one thigh were marks as if made by finger nails and *apparently made from below upwards*, and there was some fresh blood upon her clothing. She had just ceased menstruating, but the fresh blood probably came from her injuries. The physician introduced a piece of white muslin into the vagina and with it wiped its walls. This piece of cloth was given to me for examination. Careful search of the stained and stiffened portions has failed so far to reveal any spermatozoa. It would seem almost a necessity if this girl had been violated by three men that enough semen would have been left in the vagina to have been discovered, for the physician introduced the cloth I examined about three hours after the alleged crime had been committed.

The condition found by the physician might be accounted for in various ways. First, the girl's story may, in part, be true, the assault being made, but the villains were frightened away before the crime was consummated; or the crime may have been accomplished, but the semen had all escaped from the vagina, an exceedingly improbable explanation, for spermatozoa have been found in the vagina some days after being deposited there; or the whole affair may have been a fraud, or the result of hysterical violence inflicted by the girl upon herself. The character of the finger marks upon the thigh, the absence of any knowledge of a scuffle, or of noise by persons who were near the place of the alleged crime are corroborative of the last view. The truth of the affair will probably never be known, for no person is charged with the crime, the girl professes not to know either of the men who assaulted her, and her subsequent conduct is not such as to lead to much faith in her statements. Whatever the truth, I am convinced the crime, if there be a crime, was not fully accomplished because I found no spermatozoa on the cloth submitted to me.

While considering this subject, I desire to call attention to the emission of semen in cases of suicide. As all are aware, such an emission is a rather common attendant upon death by hanging or strangulation. Two cases have come under my observation, which lead me to believe it to be more frequent and general than it is usually regarded. Last winter I was called upon to make an exam-

ination of the body of a man which had been buried twelve days. At first, death was supposed to have been caused by suicidal hanging, afterward, rumors were rife that murder had been committed and the body hung to conceal the crime. The post-mortem examination removed all doubts as to death by suicide. At the coroner's inquest, those who took down the body and prepared it for burial, testified that there were no evidences of an emission of semen, but by persistent endeavor a small drop of fluid was forced from the urethra. In this was found abundance of spermatozoa. Soon after this occurrence, I had an opportunity to examine the body of a man who had hung himself in jail to escape serving a sentence in prison. I examined the clothing and body with great care, but could find no evidences of an emission, but a persistent effort to obtain it from the urethra, was finally rewarded with a small drop of fluid, which contained spermatozoa in numbers. These two cases, but for the careful and prolonged effort, would have been classed with those, where no emission had taken place. The question arises, how general is this condition in such deaths, and is it sufficiently common to constitute an important corroboration, evidence of death by strangulation?

Another question also comes up. Does not this emission occur in all, or most, cases of sudden and violent deaths. I can only say that my friend, Dr. C. O. Baker, who made the last examination related, with me, had an opportunity to examine the bodies of three men who had been killed by the falling of a gravel bank, but did not obtain any such result after patient effort.

COLLEGE MICROSCOPICAL SOCIETIES, BY PROF. SARAH F. WHITING.
(PAGE 27).

MR. E. H. GRIFFETH said that he heartily endorsed the paper by Prof. Whiting. He desired to say also that in his opinion much of the success of microscopical, as well as of other societies, depends on good programmes arranged by the leaders closely followed by the members. Many societies organized under favorable circum-